What is claimed is

1. A color separation beam splitter for projectors comprising a plurality of prisms connected with each other and three optical interference filters having different wavelength ranges respectively formed on side surfaces of the plurality of prisms, wherein the color separation beam splitter is characterized in that the three optical interference filters include a yellow color reflective dichroic mirror which reflects pure yellow light and passes red light, blue light and green light; a red color reflective dichroic mirror which reflects pure red light and passes green light and blue light; and a blue color reflective dichroic mirror which reflects pure blue light and passes pure green light, so that when a white light is incident to the color separation beam splitter, a yellow light is first reflected by the yellow color reflective dichroic mirror, a red light is then reflected by the red color reflective dichroic mirror, and then a blue light and a green light are split by the blue color reflective dichroic mirror.

2. The color separation beam splitter as claimed in claim 1, wherein the plurality of prisms includes two triangular prisms having dichroic beam-splitting coatings formed on side surfaces corresponded to base angles of the triangular prisms; and four right-angled prisms having emerging surfaces which are perpendicular to lights emitted therefrom, in which a multi-layer thin film, which reflects yellow light, is formed on an incident surface of one of the right-angled prisms where an incident white light passes through.

3. The color separation beam splitter as claimed in claim 1 wherein the plurality of prisms include three right-angled trapezoid prisms having optical interference thin films respectively formed on the surfaces corresponding to two right-angles of the right-angled trapezoid prisms; and two right-angled prisms having emerging surfaces which are perpendicular to lights emitted therefrom.

4. The color separation beam splitter as claimed in claim 1 wherein the plurality of prisms include three right-angled trapezoid prisms having optical interference thin films respectively formed on the surfaces of the right-angled trapezoid prisms corresponding to two right-angles of the right-angled trapezoid prisms so that a red light can be reflected twice by the optical interference thin films; a multi-layer thin film reflecting yellow light formed on the incident surface of one of the right-angled trapezoid prisms where an incident white light is input; a triangular prism having an optical interference thin film formed on the surface corresponding to a base angle of the triangular prism so that a blue light is reflected twice by the optical interference thin film of the right-angled trapezoid prisms and the optical interference thin film of the triangular prism; and a right-angled, triangular prism for making a light perpendicular to an emerging surface thereof where the light is emitted from.

5. The color separation beam splitter as claimed in claim 1 wherein the yellow color reflective dichroic mirror is a multi-layer film including periodic layers of Al_2O_3 and SiO_2.

6. The color separation beam splitter as claimed in claim 1 wherein both the red color reflective dichroic mirror and the blue color reflective dichroic mirror are multi-layer films including periodic layers of TiO_2 and SiO_2.

7. The color separation beam splitter as claimed in claim 4 wherein the red light, the blue light and the green light emitted from the prisms are transmitted along a direction parallel to the incident white light.

8. A projector comprising a color separation beam splitter of claim 4 for providing lights of three primary colors; three pieces of liquid crystal light valves having the lights of three primary colors passing therethrough, respectively; three dichroic mirrors for receiving the lights of three primary colors output from the liquid crystal light valves and then transmitting the lights of three primary colors along a same direction; an objective lens for receiving and projecting the lights of three primary colors.